New York CAPS Grape Commodity Survey Targets
2014 Third Quarter Summary/Final Report

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- **G**rape **C**ommodity **S**urvey **(GCS)**
  - *Lobesia botrana* – **European Grape Vine Moth (GVM)**
  - *Adoxophyes orana* – **Summer Fruit Tortrix Moth (SFT)**
  - *Eupoecilia ambiguella* – **European Grape Berry Moth (EGBM)**
  - *Spodoptera littoralis* – **Egyptian Cotton Leafworm (ECW)**
  - *Candidatus* Phytoplasma sustraliense – **Australian Grapevine Yellows**
  - *Candidatus* Phytoplasma vitis – **Flavescence doree**

The 2014 grape commodity survey was conducted in conjunction with Cornell Cooperative Extension's NYS IPM Program and Grape Programs in the main growing regions of New York State; Lake Erie, Finger Lakes, Long Island and the Hudson Valley. Traps were place in vineyards starting in early to mid July in all regions and were serviced biweekly 6 times. The four target moths involved in the survey are: European Grapevine Moth, Summer Fruit Tortrix Moth, European Grape Berry Moth, and Egyptian Cotton Leafworm.

296 traps were deployed in 27 vineyards total; 5 in the Hudson Valley, 5 in Long Island, 12 in the Finger Lakes Region and 5 in the Lake Erie Region. In addition traps were deployed in 2 nursery blocks.

1. European Grape Vine Moth (GVM) - *Lobesia botrana*

Delta traps and lures were deployed following the protocol of suspending traps at a height of 3 foot in the grape trellis, one in the SW corner of the vineyard and the other in the southeast corner of the vineyard. Vineyards that had been recently planted using vines sourced from California, and other west coast, nurseries were given priority for participation in the program. In vineyards consisting of multiple varieties, traps were placed in the southwest corner of each block where the variety changed. Traps were deployed in 5 vineyards in the Hudson Valley (2 traps in Dutchess and 8 traps in Ulster Counties) 5 in Long Island (10 traps in Suffolk County), 12 in the Finger Lakes Region (4 traps in Schuyler, 6 traps in Seneca, 2 traps in Steuben, 4 traps in Ontario and 8 traps in Yates Counties) and 5 in the Lake Erie Region (10 traps in Chautauqua County). In addition, 20 traps were deployed in 2 nursery blocks (10 traps in each nursery). 74 traps were placed by 4 project cooperators in these 27 vineyards and 2 nurseries. Traps were maintained in the field and serviced every two weeks resulting in six biweekly visits depending on location. All traps were pulled from vineyards by the end of September to facilitate grape harvest.

251 moths were collected from the traps July through September and prescreening found no evidence of the European Grape Vine Moth.

2. Summer Fruit Tortrix Moth (SFT) - *Adoxophyes orana*

Delta traps and lures were deployed following the protocol of suspending traps at a height of 3 foot in the grape trellis, one in second row in from the SW corner of the vineyard and the other in the second row from the SE corner of the vineyard. Vineyards that had been recently planted using vines sourced from California, and other west coast, nurseries were given priority for participation in the program. In vineyards consisting of multiple varieties, traps were placed in the southeast corner of each blocks where the variety changed. Traps were deployed in 5 vineyards in the Hudson Valley (2 traps in Dutchess and 8 traps in Ulster Counties) 5 in Long Island (10 traps in Suffolk County), 12 in the Finger Lakes Region (4 traps in Schuyler, 6 traps in Seneca, 2 traps in Steuben, 4 traps in Ontario and 8 traps in Yates Counties) and 5 in the Lake Erie Region (10 traps in Chautauqua County). In addition, 20 traps were deployed in 2 nursery blocks (10 traps in each nursery). 74 traps were placed by 4 project cooperators in these 27 vineyards and 2 nurseries. Traps were maintained in the field and serviced every two weeks resulting in six biweekly visits depending on location. All traps were pulled from vineyards by the end of September to facilitate grape harvest.

407 moths were collected from the traps July through September and prescreening found no evidence of the Summer Fruit Tortrix Moth.

3. European Grape Berry Moth (EGBM) - *Eupoecilia ambiguella*

Pherocon 1C traps and lures were deployed following the protocol of suspending the trap at a height of 3 foot in the grape trellis at the end post of the 5th row in from the SW corner of the vineyard and the 5th row in from the SE corner of each vineyard surveyed. Traps were deployed in 5 vineyards in the Hudson Valley (Dutchess and Ulster Counties) 5 in Long Island (Suffolk County), 12 in the Finger Lakes Region (Schuyler, Seneca, Ontario and Yates Counties) and 5 in the Lake Erie Region (Chautauqua County). In addition, 20 traps were deployed in 2 nursery blocks (10 traps in each nursery). 74 traps were placed by 4 project cooperators in these 27 vineyards and 2 nurseries. Traps were maintained in the field and serviced every two weeks resulting in six biweekly visits depending on location. All traps were pulled from vineyards by the end of September to facilitate grape harvest.

2024 moths were collected from the traps July through September and prescreening found only one moth which was sent to the entomology laboratory at Cornell University to determine if it was a European Grape Berry Moth. This examination was negative resulting in no evidence of European Grape Berry Moth in the traps in 2014.

4. Egyptian Cotton Leafworm (ECW) - *Spodoptera littoralis*

Plastic Bucket Traps and lures were deployed following the protocol of suspending the trap at a height of 3 foot in the grape trellis and at a distance of 5-foot into each of the outside rows of each vineyard surveyed. Traps were deployed in 5 vineyards in the Hudson Valley (2 traps in Dutchess and 8 traps in Ulster Counties) 5 in Long Island (10 traps in Suffolk County), 12 in the Finger Lakes Region (4 traps in Schuyler, 6 traps in Seneca, 2 traps in Steuben, 4 traps in Ontario and 8 traps in Yates Counties) and 5 in the Lake Erie Region (10 traps in Chautauqua County). In addition, 20 traps were deployed in 2 nurseries blocks (10 traps in each nursery). 74

traps were placed by 4 project cooperators in these 27 vineyards and 2 nurseries. Traps were maintained in the field and serviced every two weeks resulting in six biweekly visits depending on location. All traps were pulled from vineyards by the end of September to facilitate grape harvest.

717 moths were collected in the traps from July through October and prescreening found no evidence of the Egyptian Cotton Leafworm.

Visual Inspection for Australian Grapevine Yellows and Flavescence doree

A visual inspection for Australian Grapevine Yellows and Flavescence doree was conducted in the same vineyards and nurseries used to conduct the Grape Commodity Survey (GCS). Visual examinations were conducted in 5 vineyards in the Hudson Valley (1 in Dutchess and 4 in Ulster County) 5 in Long Island (5 in Suffolk County), 12 in the Finger Lakes Region (2 in Schuyler, 3 in Seneca, 1 in Steuben, 2 in Ontario and 4 in Yates Counties) and 5 vineyards in the Lake Erie Region (5 in Chautauqua County) and 2 nursery blocks. There were no reports of Australian Grapevine Yellows or Flavescence doree in any of the 27 vineyards or 2 nurseries involved in the survey.

Virus Sampling in the 2014 CAPS Project

Virus sampling was performed in July and again in September of 2014 using the vineyards and nurseries used to conduct the GCS as well as additional vineyards/vineyard blocks where deemed appropriate.

Spring Virus Sampling

Protocol:

- If possible vineyards that are declining and suspected of having problems with viruses were identified and sampled. If that was not feasible, vineyards were chosen at random.
- In each vineyard a panel was chosen with 4-6 vines. In July, 2-3 young leaves were pulled per vine for a total of 15 leaves. Each vineyard was sampled in 4 sites.
- In September, the same sampling procedure was followed with the exception of selecting mature basal leaves.
- In the nurseries, one young leaf per vine for 15 vines was sampled in July. In September, mature basal leaves were chosen.
- The leaves were placed in zip lock bags, labeled and sent overnight to the Marc Fuchs lab for testing.

The viruses tested for in the spring sampling were: Grapevine fanleaf Virus (GFLV); Arabis mosaic Virus (ArMV); Tomato ringspot virus/Grapevine yellow vein disease (ToRSV); Tobacco ringspot virus (TRSV); Grapevine virus A (GVA); Tomato black ring virus (TBRV); Strawberry latent ringspot Virus (SLRSV); Raspberry ringspot virus (RpRSV); Grapevine fleck virus (GFkV); Grapevine leafroll–associated virus 1 (GLRaV-1), and Grapevine leafroll–associated virus 3 (GLRaV-3).

A total of 85 samples were collected for virus screening in July. Nine samples were collected from 6 vineyards on Long Island (Suffolk County), 27 samples were collected in the Finger Lakes Region from 27 vineyard blocks (12 in Yates County, 8 in Seneca, 4 in Schuyler, 2 in Steuben and 1 in Ontario), 24 samples were collected from 24 vineyard blocks in the Hudson Valley (19 in Ulster County and 5 from Dutchess). Twenty-five total samples were collected in the Lake Erie region, all

in Chautauqua County. Twenty samples, representing 15 different varieties, came from the two nursery blocks involved in the survey.

Results of the spring sampling for viruses were:

- **Grapevine fanleaf Virus (GFLV)** No positive results
- **Arabis mosaic Virus (ArMV)** No positive results
- **Tomato ringspot virus/Grapevine yellow vein disease (ToRSV)** No positive results
- **Tobacco ringspot virus (TRSV)** No positive results
- **Grapevine virus A (GVA)** No positive results
- **Tomato black ring virus (TBRV)** No positive results
- **Strawberry latent ringspot Virus (SLRSV)** No positive results
- **Raspberry ringspot virus (RpRSV)** No positive results
- **Grapevine fleck virus (GFkV)** Three positive results from Long Island
- **Grapevine leafroll–associated virus type 1 (GLRaV-1)** Three positive results from the Finger Lakes region and one from the Lake Erie region.
- **Grapevine leafroll–associated virus 3 (GLRaV-3)** Five positive results from the Finger Lakes region and two from the Lake Erie region.

There were a total of 14 positive results out of 85 samples submitted during the spring virus screening. Locations of positive results, by virus, are listed in the table below.

Virus	#samples total in County	# positive samples	County
Grapevine fleck virus (GFkV)	**9**	**3**	**Suffolk**
Grapevine leafroll–associated virus (GLRaV-1)	**12**	**3**	**Yates**
Grapevine leafroll–associated virus (GLRaV-1)	**25**	**1**	**Chautauqua**
Grapevine leafroll–associated virus 3 (GLRaV-3	**12**	**1**	**Yates**
Grapevine leafroll–associated virus 3 (GLRaV-3	**8**	**4**	**Seneca**
Grapevine leafroll–associated virus 3 (GLRaV-3	**20**	**2**	**Nursery blocks**

Fall Virus Sampling

The viruses tested for in the fall sampling were: Grapevine leafroll–associated virus 1 (GLRaV-1), 2 (GLRaV-2), 3 (GLRaV-3), and 4 (GLRav-4); and Grapevine red blotch–associate virus (GRBaV)

A total of 159 samples were collected for virus screening in September. 65 samples were collected from 25 vineyard blocks on Long Island (Suffolk County), 27 samples were collected in the Finger Lakes Region from 27 vineyard blocks (13 in Yates County, 7 in Seneca, 4 in Schuyler, 2 in Steuben and 1 in Ontario), 22 samples were collected from 22 vineyard blocks in the Hudson Valley (21 in Ulster County and 1 from Dutchess). 25 samples were collected in the Lake Erie region, all in Chautauqua County. Twenty samples, representing 15 different varieties, came from the two nursery blocks participating in the survey.

- **Grapevine leafroll–associated virus type 1 (GLRaV-1).** Found in 20 samples – 10 in Long Island, 5 in the Finger Lakes Region, 4 in the nursery blocks and 1 in the Lake Erie Region.
- **Grapevine leafroll–associated virus type 2 (GLRaV-2).** Found in 2 samples in Long Island.
- **Grapevine leafroll–associated virus type 3 (GLRaV-3).** Found in 43 samples – 16 in Long Island, 8 in the nursery blocks, 7 in the Finger Lakes Region, 7 in the Lake Erie Region and 5 in the Hudson Valley.
- **Grapevine leafroll–associated virus type 4 (GLRaV-4).** Found in 2 samples – 1 in Long Island and 1 in the Lake Erie Region.

There were a total of 67 positive results out of 159 samples submitted during the all virus screening. Locations of positive results, by virus, are listed in the table below

Virus	#samples total in County	# positive samples	County
Grapevine leafroll–associated virus (GLRaV-1)	**65**	**10**	**Suffolk**
Grapevine leafroll–associated virus (GLRaV-1)	**13**	**4**	**Yates**
Grapevine leafroll–associated virus (GLRaV-1)	**2**	**1**	**Steuben**
Grapevine leafroll–associated virus (GLRaV-1)	**25**	**1**	**Chautauqua**
Grapevine leafroll–associated virus (GLRaV-1)	**20**	**4**	**Nursery blocks**
Grapevine leafroll–associated virus type 2 (GLRaV-2)	**65**	**2**	**Suffolk**
Grapevine leafroll–associated virus 3 (GLRaV-3)	**65**	**16**	**Suffolk**
Grapevine leafroll–associated virus 3 (GLRaV-3)	**1**	**1**	**Ontario**
Grapevine leafroll–associated virus 3 (GLRaV-3)	**12**	**1**	**Yates**
Grapevine leafroll–associated virus 3 (GLRaV-3)	**8**	**2**	**Seneca**
Grapevine leafroll–associated virus 3 (GLRaV-3)	**4**	**1**	**Schuyler**
Grapevine leafroll–associated virus 3 (GLRaV-3)	**2**	**2**	**Steuben**
Grapevine leafroll–associated virus 3 (GLRaV-3)	**25**	**7**	**Chautauqua**
Grapevine leafroll–associated virus 3 (GLRaV-3)	**20**	**8**	**Nursery blocks**
Grapevine leafroll–associated virus 3 (GLRaV-3)	**21**	**4**	**Ulster**
Grapevine leafroll–associated virus 3 (GLRaV-3)	**1**	**1**	**Dutchess**
Grapevine leafroll–associated virus type 4 (GLRaV-4).	**65**	**1**	**Suffolk**

Grapevine leafroll–associated virus type 4 (GLRaV-4).	**25**	**1**	**Chautauqua**

Totals for both spring and fall virus sampling recorded 81 positive results out of a total of 244 samples submitted.